



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/768,173	01/24/2001	Koh Fuwa	010062	9220

23850 7590 04/07/2003

ARMSTRONG, WESTERMAN & HATTORI, LLP
1725 K STREET, NW
SUITE 1000
WASHINGTON, DC 20006

EXAMINER

DEMAKIS, JAMES A

ART UNIT	PAPER NUMBER
----------	--------------

2836

DATE MAILED: 04/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/768,173

Applicant(s)

FUWA ET AL.

Examiner

James A Demakis

Art Unit

2836

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-14 is/are rejected.
- 7) ☒ Claim(s) 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4,6-7, 12,14 are rejected under 35 U.S.C. 102(b) as being anticipated by Shufflebotham et al (USPN 5,847,918).

Regarding Claims 1-4,6-7,12,14:

Shufflebotham et al discloses the use of electrostatic chucks 30 as part of vacuum plasma processing equipments10, see figure 1, to clamp dielectric work-pieces consisting of a glass substrate, Col. 3, lines 52-53. The electrodes 36 and their bases 27 can be of various shapes, including circular 80 or “plate-shaped”, see Figures 6 and 7, and Col. 9, lines 24-25; and are surrounded by an electrical insulator body 44, Col. 6, lines 14-16. Complex electrode arrangements can be connected to different DC voltages, Col. 8, lines 60-66; so that, two electrodes at different voltages could allow different clamping forces at different areas of the same dielectric work-piece, Col.9, lines 18-20. Also, the electrodes include a bare upper metal planar face, which abuts the back face of the substrate work-piece, see Figure 2 and Col. 5, lines 39-40. Additionally, the electrodes can be modified to include a protective coating 59, Figure 4, that can be a very thin dielectric or an electrical conductor material, Col. 7, lines 25-30.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shufflebotham in view of Kasahara (USPN 5,229,910).

Regarding Claim 5:

Kasahara discloses electrostatic electrodes conforming to a concave/convex curvature structure, Figure 4(A), with electrodes 12a,12b and insulating structures 13 conforming to the main structure, see Col.5, lines 15-28. This results in a higher density of electric lines of force E from attracting layer 11 due to the curvature.

It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Shufflebotham by allowing a curvature between electrodes and therefore increasing electrostatic forces, as a result.

5. Claims 8-10,13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shufflebotham et al and in view of Kitabayashi et al (WO 0072376).

Regarding Claims 8-10,13:

Kitabayashi et al discloses the use of a plurality of pairs of electrodes as shown in Figures 4-6. Additionally, it is disclosed that electrode spacings of 2 mm or less, Col. 11, lines 11-15; and electrode widths of less than 4mm are used. Using the voltage applied of 10 kV and a

Art Unit: 2836

spacing of 1mm between the electrodes; an electric field of 1×10^6 V/m is obtained from this calculation, Col. 11, lines 11-27.

It would have been obvious to one having ordinary skill in the art at the time of the invention to have modified Shufflebotham et al to have allowed a curvature between electrodes thereby increasing the electrostatic force at the center of the curvature. Also, the modifications suggested in voltage, electrode spacing and width have the benefit of allowing sufficient electrostatic forces and providing for adequate spacing for insulation to prevent breakdown.

Allowable Subject Matter

6. Claim 11 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A Demakis whose telephone number is 703.305.7938. The examiner can normally be reached on 7:30AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 703.308.3119. The fax phone numbers for the organization where this application or proceeding is assigned are 703.308.7721 for regular communications and 703.308.7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703.308.0956.

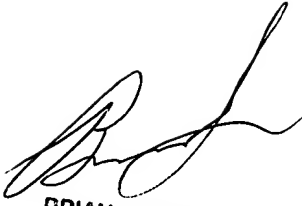
Application/Control Number: 09/768,173

Page 5

Art Unit: 2836

James A. Demakis

March 24, 2003



BRIAN SIRCUS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800